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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,284	11/13/2001	Markus Andreasson	66217	6316

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EXAMINER

KASSA, YOSEF

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,284

Applicant(s)

ANDREASSON ET AL.

Examiner

YOSEF KASSA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-11,13-23,25,26 and 28-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments see the remark on page 8-12, filed on 03/27/2006, with respect to rejections of claims 1-33 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made on Nakabayashi (U.S. Patent 5,675,672) and Saitoh (U.S. Patent 5,220,621), and further in view of Withgott et al (U.S. Patent 5,491,760).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-9, 11, 13-17, 23, 25, 26 and 28-33 are rejected under 35 U.S.C.

103(a) as being unpatentable over Nakabayashi (U.S. Patent 5,675,672), and further in view of Withgott et al (U.S. Patent 5,491,760).

With regard to claim 1, Nakabayashi discloses a comparison device for comparing the extent of the coherent pieces of information determining an overlap position between the images (please refer to col. 5, lines 35-39, note that the compared coded characters are similar images, that is, text images, and compared images are overlap images);

an assembling device (aligner 20 in Fig. 1) including a memory (please refer to memory 26 in Fig. 1) for assembling, i.e., joining, said compared coded representation to form a composite representation in said memory (please refer to col. 4, lines 63-col. 5, lines 1-7).

Nakabayashi does not explicitly call for converting coherent pieces of the information in the images to a coded representation of the extent of the pieces of information in at least one dimension. However, in the same field of endeavor, Withgott teaches this feature (please refer to Figs 18 and 19, and also col. 16, lines 61-col. 17, lines 20). At the time of the invention was made, it would have been obvious to a person an ordinary skill in the art to incorporate the teaching of Withgott's overlap image processing system into Nakabayashi system. The suggestion/motivation for doing so is to provide a document image segmenting into word image units and the word units are evaluated in accordance with morphological image properties of the word units, such as word shape (please refer to col. 3, lines 54-61). Therefore, it would have been obvious to combine Withgott with Nakabayashi to obtain the invention as specified in claim 1.

With regard to claim 3, Nakabayashi discloses wherein said coded representation includes a division of the information inside borders, each comprising portions of the information (see col. 4, lines 11-20).

With regard to claim 4, Nakabayashi discloses wherein said borders include word included in said information (see col. 4, lines 1-20).

With regard to claim 5, Nakabayashi discloses further including a character recognition device for processing the composite representation and converting it to

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character code format (see Fig. 1, item 12 converting the input data into character code format).

Claim 6 is similarly analyzed and rejected the same as claim 5.

With regard to claim 7, Nakabayshi discloses further including a determining device for determining structures in each of said images (see col. 4, lines 1-20).

With regard to claim 8, Nakabayshi discloses further including a determining device is adapted to identify direction of lines in each of said images (see col. 4. lines 14-20).

With regard to claim 9, Nakabayshi discloses wherein said determining device is adapted to identify text line directions (see col. 4, lines 21-33).

Claim 11 is similarly analyzed and rejected the same as claim 1.

Claim 13 is similarly analyzed and rejected the same as claim 3.

With regard to claim 14, Nakabayshi discloses wherein rectangles include words included in said information (see Figs. 4-6, comprises rectangles shaped words).

Claims 15 and 16 are similarly analyzed and rejected the same as claim 5.

Claim 17 is similarly analyzed and rejected the same as claim 7.

With regard to claim 23, Nakabayshi discloses a computer readable medium storing a program for carrying out the method (see Fig. 2 and 3).

With regard to claim 25, Nakabayshi discloses wherein a coherent piece of information is selected from the group of a symbol, a picture and a word (see col. 4, lines 21-29).

With regard to claim 26, Nakabayshi discloses wherein the coherent pieces of information are words and wherein the comparison device is adapted to compare the length of the words in said images (see col. 4, lines 59-67).

Claims 28 and 29 are similarly analyzed and rejected the same as claims 25 and 26.

Claim 30 is similarly analyzed and rejected the same as claim 1. Except, the additional limitation of "sorting out the images having redundant content based on the overlap" (see col. 4, lines 63-col. 5, lines 5).

Claim 31 is similarly analyzed and rejected the same as claim 1. Except, the additional limitation of "an extractor which sorts out the images having redundant content based on the overlap" (see col. 6, lines 20-30).

With regard to claim 32, Nakabayshi discloses wherein at least one information is selected from the group of a symbol, a picture and word (see Fig. 4).

Claim 33 is similarly analyzed and rejected the same as claim 32.

3. **Claims 10 and 18-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakabayashi (U.S. Patent 5,675,672) and Withgott et al (U.S. Patent 5,491,760), and further in view of Saitoh (U.S. Patent 5,220,621).

With regard to claim 10, Nakabayashi is silent about wherein the determining device is adapted to identify direction of lines and text line directions utilizing Hough transformation. However, at the same field of endeavor, Saitoh teaches this feature (see col. 2, lines 31-45). At the time of the invention was made, it would have been obvious

to a person of ordinary skill in the art to incorporate the teaching of Saitoh's Hough transformation process into Nakabayashi's system. The suggestion/motivation for doing so would have been to provide characters recognizing system and method using Hough transform. Therefore, it would have been obvious to combine Saitoh with Nakabayashi to obtain the invention as specified in claim 10.

Claims 18-20 are similarly analyzed and rejected the same as claim 10.

With regard to claim 21, Nakabayashi discloses further including adjusting the perspective of each image in dependence of the direction of lines (see col. 5, lines 41-45).

With regard to claim 22, Nakabayashi is silent about adjusting the rotational position of each image on dependence of the direction of lines. However, at the same field of endeavor, Saitoh teaches this feature (see col. 6, lines 58-65). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Saitoh's adjusting rotated image process into Nakabayashi's system. The suggestion/motivation for doing so would have been to provide characters recognizing system and method using Hough transform. Therefore, it would have been obvious to combine Saitoh with Nakabayashi to obtain the invention as specified in claim 22.

Other Prior Art Cited

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. (5848184), (5701500), (5680479), (5613,016) and (5555362).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSEF KASSA whose telephone number is (571) 272-7452. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JINGGE WU can be reached on (571) 272-7429. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communication and (571) 273-8300 for after Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PATENT EXAMINER

Yosef Kassa



06/05/06.